

**City of Santa Barbara: Mason, Chapala, and
Cota Bridge Replacements**



Natural Environment Study

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Natural Environment Study

STATE OF CALIFORNIA

Department of Transportation

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Summary

This report presents the biological findings and new project information for three bridge replacement locations along lower Mission Creek in the City of Santa Barbara, Santa Barbara County, California. This report is in response to the letter from Caltrans dated February 18, 2010 describing the reporting requirements for the project. The data provided herein and in the supporting Biological Assessment is intended to supplement the existing extensive documentation and information previously provided by the U.S. Army Corps of Engineers (USACE) to the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) and through the CEQA review for the Lower Mission Creek Flood Control Project (LMCFCP). The proposed bridge replacements occur at Cota Street Bridge (No. 51C – 0246 / BRLO), Chapala Street Bridge (No. 51C-0250 / BRLSZZ - 5007 {043}) and Mason Street Bridge (No. 51C – 287) (the Site); locations are shown on Figure 1 (City of Santa Barbara Department of Public Works 2010a, 2010b, 2010c). The existing Cota and Mason Street Bridges are classified as Functionally Deficient and they lack adequate hydraulic capacity to withstand planned creek widening. The Chapala Street Bridge is scheduled for replacement because it is seismically deficient.

Replacement of the Cota and Mason Street bridges was evaluated as a component of the 2000 USACE Lower Mission Creek Flood Control Feasibility Study, and the biological component to the entire Lower Mission Creek Flood Control Project has been well studied in response to the potential presence of the federally endangered steelhead (*Oncorhynchus mykiss*) and tidewater goby (*Eucyclogobius newberryi*); Mission Creek has been designated as critical habitat for both these species as of March 2008 (USFWS 2008). The Federal Highway Administration (FHWA) is funding the bridge replacements and, working with Caltrans, is the lead federal action agency for the project conducting Endangered Species Act consultation with the USFWS and NMFS.

The three bridge replacements along lower Mission Creek at Cota, Chapala and Mason Streets are not expected to have a substantial adverse effect, either directly or through habitat modifications, on either tidewater goby or steelhead trout provided all proposed avoidance and impact minimization measures are followed. These measures include but are not limited to specific stream diversion protocols including biological monitoring, application of Best Management Practices, and scheduling of construction work to occur outside of flow periods conducive to increased movement by fish within Mission Creek. The completed bridge replacements in conjunction with other components of LMCFCP are expected to benefit both steelhead and tidewater goby by markedly improving habitat conditions.

This letter generally follows the format of a Natural Environment Study for projects with minimal impacts, which summarizes previous focused species studies and biological assessments related to the project. Results of a recently prepared supplemental Biological Assessment (BA) of the Site (ARCADIS 2010) are included and the complete supplemental document is included with this report for review. The information in the supplemental BA is intended to add to the information already provided to the federal resource agencies (NMFS and USFWS) by the USACE pursuant

to the prior Section 7 permitting under the Endangered Species Act. Because of the level of previous biological study and documentation of the LMCFCP for the last decade, Caltrans has indicated that this letter report format is acceptable for addressing all three bridges and for explaining how the City of Santa Barbara will comply with all applicable presidential executive orders (EOs) and federal acts (Caltrans 2007, 2009a, 2009b, 2010; Tom Edell, Caltrans District 5 Biologist, pers. comm. 7/15/10).

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List of Abbreviated Terms

BA	Biological Assessment
BMP	Best Management Practice(s)
BO	Biological Opinion
CCC	California Coastal Commission
Caltrans	California Department of Transportation
CDFG	California Department of Fish and Game
Cfs	cubic feet per second
CI8SS	Cast-in-Steel Shell
cm	centimeter(s)
CNPS	California Native Plant Society
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EO	Executive Order
EPA	United States Environmental Protection Agency
ESA	Environmentally Sensitive Area
ESU	Evolutionarily Significant Unit
ha	hectare(s)
km	kilometer(s)
LMCFCP	Lower Mission Creek Flood Control Project
m	meter(s)
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
ppt	parts per trillion
PCE	primary constituent element(s)
RWQCB	Regional Water Quality Control Board
SWPPP	Storm Water Pollution Prevention Plan
USACE	United States Army Corps of Engineers

1. Project Description

The LMCFCP has been developed to increase the flood-carrying capacity in Mission Creek from 1,050 cubic feet per second (cfs), or 29.4 cubic meters per second, to 3,400 cfs, or 95.2 cubic meters per second, along a mile of Mission Creek located between the mouth of the creek at the Cabrillo Boulevard Bridge upstream to the Canon Perdido Street Bridge (USACE 2000a). As part of this project, the creek channel will be widened and designated bridges will be replaced in order to accommodate increased channel capacity; in addition, native riparian vegetation will be planted along creek banks and in habitat expansion zones, and suitable habitat for the federally endangered steelhead and tidewater goby will be created by adding pools and shaded areas in water of sufficient depth. Other impact avoidance and minimization measures for this project include appropriate construction schedule timing and biological monitoring during construction to avoid affects to steelhead and tidewater goby; placement of diversion/dewatering systems prior to work activities; minimization of in-stream disturbance; and a storm water pollution prevention plan (SWPPP) that details best management practices (BMPs) for the project.

1.1 Project History

Previous consultation addressing replacement of the Cota and Mason Street Bridges occurred as part of the overall Lower Mission Creek Flood Control Project. The bridge replacements are being funded by the Federal Highway Administration (FHWA). As the lead federal agency, Caltrans/FHWA consulted with both the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) to ensure compliance with the Endangered Species Act. The NMFS, in a Biological Opinion - August 2, 2000 (Federal File # F-LB-00-23:KAJ), determined that the lower Mission Creek Flood Control Project was not likely to jeopardize the continued existence of the Southern California steelhead and was not likely to destroy or adversely modify designated critical habitat. Similarly, the USFWS concluded in their Biological Opinion – June 1, 2002 (Federal File # 1-8-00-F-74) that the LMCFCP was not likely to jeopardize the continued existence of the tidewater goby.

The Chapala Street Bridge replacement project, while not part of the LMCFCP, is also located on Mission Creek, a short distance upstream from the Mason Street Bridge and a short distance downstream from the Cota Street Bridge. In addition, the proposed Chapala Bridge replacement project involves less construction than the other two bridges and would include all applicable resource protection measures from the environmental consultations to date.

Since the consultation with agencies (NMFS 2000; USFWS 2001), additional information about tidewater goby critical habitat in Mission Creek and presence has been gathered, specific project descriptions of the Chapala, Cota, and Mason Streets bridge replacements have been developed (including work in the concrete channel portion of creek at Chapala), slight modifications to former creek enhancements (USACE 2000) have been made, and a recent ARCADIS 2010 survey of each of the three bridge locations has been conducted. It is anticipated that the information provided herein will not result in changes to the conclusions stated in the previously issued

documents; the amount and extent of effects to essential features of critical steelhead and tidewater goby habitat are expected to be negligible and are not expected to result in detectable adverse effects to either species. Temporary effects to these fish and essential features of their habitat are expected to be confined to dewatered portion of the creek. Several proposed creek enhancement measures are expected to enhance wildlife and riparian habitat as a result of measures included in LMCFCP and the specific work proposed for the three bridges at the Sites. The City of Santa Barbara will comply with all applicable EOs and federal acts as part of the project.

2. Study Methods

As part of preparation of the 2010 BA (ARCADIS 2010), which updates biological information presented in LMCFCP Biological Assessments (USACE 2000b; USACE 2000c), ARCADIS personnel conducted biological surveys at each of the three bridge locations.

Literature Search: Prior to performing the fieldwork, ARCADIS conducted a review of documents concerning Lower Mission Creek and the surrounding areas, including the extensive existing project record and a search of the California Natural Diversity Database (CNDDDB; California Department of Fish and Game [CDFG] 2010) for the U.S. Geological Survey (USGS) 7.5-minute series Santa Barbara, Carpinteria, Goleta, Dos Pueblos Canyon, San Marcos Pass, Little Pine Mountain, and Hildreth Peak topographic quadrangles. The California Native Plant Society's (CNPS) Electronic Inventory of Rare and Endangered Vascular (CNPS 2010) was also queried for appropriate habitat within the Santa Barbara Quadrangle and adjacent quadrangles. Other resources utilized for this assessment included previous biological assessments and biological opinions prepared for the LMCFCP, updated project descriptions for the Cotá Street, Chapala Street and Mason Street replacement bridges, various county, state, and federal regulations, review of other recent ecological reports completed in and around the Site, and ARCADIS' direct experience in the region.

Sensitive wildlife investigations for the Site were based upon the existing record and upon wildlife species reported in the CNDDDB. The database was queried for a baseline list of sensitive wildlife species reported from locations in the extended Site vicinity. From there, specific species habitat requirements were compared with conditions existing at the Site to determine which species could potentially occur on the Site and which species might be eliminated from further examination. Species location coordinates provided in the selected CNDDDB list of sensitive species for the Site were utilized to assess their proximity to the Site and identify any habitat similarities that might be revealed through aerial imagery. ARCADIS' familiarity with habitat requirements for species included in the CNDDDB inventory and with the existing habitat conditions on and around the Site also aided in compilation of data, in conjunction with review of other ecological documents from nearby locations.

Field Surveys: Biological surveys of the three bridge sites were conducted on June 16, July 8, and July 15, 2010 by ARCADIS Senior Ecologist Mary Carroll and Project Biologist Nicholas

Kautzman in order to verify and update project information. The ARCADIS surveys focused primarily on proposed construction areas as indicated in bridge replacement plans provided by the City of Santa Barbara (Figure 1).

Botanical Surveys: ARCADIS plant surveys encompass gathering of information on species composition, abundance, relative distribution, and community composition (including dominants, associates, and uncommon elements), covering all areas in the project area on foot at least twice. Physiographic features are noted and correlated with plant distributions, with special attention paid to accessible drainages and wetlands, rocky/exposed outcrops and changes in soil type, and native communities in the project area. Surveys were conducted during flowering seasons for special-status species known from the area, were designed to systematically cover all habitat types on Site, and were consistent with conservation ethics.

All plant species found to be in a recognizable condition during the ARCADIS surveys were recorded and are listed in Table 1. Nomenclature follows the Jepson Online Interchange (Baldwin et al. 2010), which lists updates based on *The Jepson Manual* (Hickman 1993). In addition, pertinent volumes of the *Flora of North America* were also utilized for plant identification (Flora of North America Editorial Committee, eds. 1993+). Plant surveys were completed during the appropriate season for most species to be recognizable. As with any site, it is important to note that the list of vascular plant species on the Site presented in this report may not be comprehensive and additional species may be found during future visits.

Sensitive Species Surveys: As mentioned, prior to the initial Site visit, a review of all sensitive species reported in the Santa Barbara and adjacent quadrangles was conducted utilizing CNDDB (2010) and CNPS (2010). Potentially occurring federally listed ecological resources identified during the database and background search are listed in Table 2.

Among the data reviewed were known locations, habitats, soil or other environmental preferences, elevational range, and other pertinent information. This information was then used during field surveys in order to conduct focused searches for sensitive species. In the event that one or more sensitive species might be found, location data, including GPS coordinates, elevation, slope exposure, soil type, habitat type, associated species, population size, phenology, and other relevant data would be recorded for each location and species. In addition, a field survey form would be submitted to CNDDB documenting the data on the sensitive species on Site.

Wildlife Surveys: All wildlife species observed at the Site or assumed present from sign (tracks, burrows, scat, nests) during the surveys are discussed in Section 4. ARCADIS wildlife surveys are intended to identify all wildlife utilizing a Site or as many species as can be inferred from direct observation or from various sign (prints, sounds, burrows, trails, nests, prey remains, foraging and other impacts to vegetation, etc.). Active searches for birds and mammals included direct observation, auditory recognition, and diagnostic sign (prints, sounds, burrows, trails, nests,

prey remains, foraging and other impacts to vegetation, etc.). For reptiles and amphibians, the search was also expanded to include lifting/turning and carefully replacing rocks and debris.

Wildlife surveys emphasize the characterization of existing habitat in terms of suitability and value for both known and potentially occurring sensitive wildlife species and seek to determine the extent to which wildlife species utilize existing habitat for different life cycle and behavioral needs (e.g., breeding, foraging, dispersal, cover). Although all wildlife species observed or indicated in the field during surveys are recorded, a primary focus of the wildlife surveys is to determine the presence or potential for the presence of sensitive and rare species. The list of wildlife species presented in this report may not be comprehensive. In order to create a more comprehensive wildlife census, multiple surveys over several years would be required to enable observation of species during the day and at night, during different seasons, and during different weather conditions when some species are more likely to be detected.

Creek Width and Water Quality Sampling: A standard tape measure was used to measure stream width at each bridge site. Measurements of water salinity and temperature were obtained at each bridge site by utilizing a YSI 30-10 Dual Parameter Conductivity Meter; this handheld instrument includes a 25-foot (8 m) cable that allows for water sampling to measure salinity, conductivity, and temperature at different water depths.

Photographs provided in Appendix A offer views of the habitats observed on the Site.

3. Environmental Setting

The project area is located along the south coast of Santa Barbara County, with the Pacific Ocean to the south and the Santa Ynez Mountains to the north, a unique geographic alignment found in few places in North America. The Santa Ynez Mountains extend from Point Conception into western Ventura County; high peaks include La Cumbre Peak at 3,995 feet (1,218 m) above Mission Canyon and Divide Peak at 4,787 feet (1,460 m) elevation close to the Santa Barbara-Ventura County line. Most canyons on the south side of these mountains drain southward to the Pacific Ocean, including Mission Creek.

Mission Creek is a 7.5 mile-long (12 km-long) perennial stream that drains an approximately 7,786-acre (3,151-ha) watershed on the south slope of the Santa Ynez Mountains. Its headwaters originate below the crest of the Santa Ynez Mountains, flanked by La Cumbre Peak (3,985 feet, or 1,218 m, above msl) to the west and an eastern ridge reaching over 3,440 feet (1,049 m) above msl. Mission Creek and its major tributary, Rattlesnake Creek, descend from the steep slopes above to merge near the Santa Barbara Mission. Gradients above this location are approximately 1,000 feet per mile, or 305 m per 1.6 km (NMFS 2000), and the creek corridor is lined with a dense canopy of riparian woodland and forest. Creek banks in this area have natural sides and support native vegetation, unless modified by private landowners. Trout have been observed in this area of the creek on numerous occasions (NMWS 2000). Along the main branch of Mission Creek there are two manmade barriers, the old Mission Dam in the Santa Barbara

Botanic Garden, built in 1806, as well as a debris basin and dam upstream. Rattlesnake Creek also has a less noticeable dam built in 1806 along with a debris dam.

Below the Mission, the creek banks and trajectory have been modified for flood control, highway construction, and residential and industrial purposes; a small portion of the former riparian corridor of Mission Creek has been recently restored west of Highway 101 at Bohnett Park, overseen by the City of Santa Barbara. Portions of lower Mission Creek contain concrete-lined channels and banks, as well as a variety of other bank stabilization infrastructure, including stacked burlap bags filled with concrete, cemented rocks, masonry walls, shot-crete walls, gabions, and other revetments. The native vegetation has largely been modified, with a few remaining native riparian trees, especially large sycamores (*Platanus racemosa*), a few scattered coast live oak trees (*Quercus agrifolia*) and arroyo willows (*Salix lasiolepis*). Cottonwood (*Populus*) and white alder (*Alnus rhombifolia*) have also been reported in lower Mission Creek (USACE 2000a). However, once Mission Creek reaches the eastern edge of Highway 101 below Oak Park near Junipero Street, there is no contiguous native riparian canopy and no layer of native shrubs and herbs on the stream banks. Residential and commercial structures encroach directly into the floodplain. Periodic removal of vegetation in the channel is part of routine flood control maintenance (USACE 2000a). Refuse and pollution also introduce contaminants into the creek corridor.

A small lagoon is present at the creek mouth, just east of Stearns Wharf, extending up to Yanonali Street. Creek walls in this area are stabilized with concrete or gabions.

Opportunistic non-native species predominate along lower Mission Creek, displacing native species and reducing habitat quality and functions. The most problematic invasive species include giant reed (*Arundo donax*), castor bean (*Ricinus communis*), pampas grass (*Cortaderia jubata*), periwinkle (*Vinca major*), English ivy (*Hedera helix*), tree tobacco (*Nicotiana glauca*), shamel ash (*Fraxinus uhdei*), and tree of heaven (*Ailanthus altissima*).

Due primarily to the surrounding urban environment, limited natural open space and close proximity to human disturbance, few wildlife species were observed during the surveys by ARCADIS. Wildlife species observed during the surveys included the following: raccoon (*Procyon lotor*), pacific treefrog (*Hyla regilla*), American crow (*Corvus brachyrhynchos*), barn swallow (*Hirundo rustica*), black-crowned night heron (*Nycticorax nycticorax*), black phoebe (*Sayornis nigris*), hooded oriole (*Icterus cucullatus*), house sparrow (*Passer domesticus*), northern mockingbird (*Mimus polyglottos*), rock dove (*Columba livia*) and scrub jay (*Aphelocoma californica*).

These occur in two upland communities: non-native grassland/ruderal and ornamental plantings and four wetland habitat types: southern mixed riparian forest, coastal and valley freshwater marsh, coastal brackish marsh (estuary), and coastal steelhead trout stream.

4. Natural Communities of Special Concern

A total of six habitat types were identified at the three bridge sites during the ARCADIS 2010 survey; not all communities were observed at all sites. These include two upland communities: non-native grassland/ruderal and ornamental plantings and four wetland habitat types: southern mixed riparian forest, coastal and valley freshwater marsh, coastal brackish marsh (estuary), and coastal steelhead trout stream.

In the CNDDDB community classification system (Holland 1986), the southern mixed riparian forest observed in the overall project areas is part of the Southern Mixed Riparian Forest Community. This vegetation best fits into the *Platanus racemosa* Woodland Alliance or the *Salix lasiolepis* Woodland Alliance listed in the CNPS *Manual of California Vegetation* (Sawyer, Keeler-Wolf, and Evans 2009). Southern Mixed Riparian Forest has a global rank of G2 (2,000 to 10,000 acres) and a state rank of S2.1 (2,000 to 10,000 acres, very threatened), as listed in the CNDDDB (2010).

Freshwater marsh vegetation onsite is part of the Coastal and Valley Freshwater Marsh Community (Holland 1986). In the CNPS *Manual of California Vegetation* (Sawyer, Keeler-Wolf, and Evans 2009), the freshwater marsh vegetation along most riparian corridors fits best into the *Typha latifolia* Herbaceous Alliance. Coastal and freshwater marsh has a global rank of G3 (10,000 to 50,000 acres) and a state rank of S2.1 (2,000 to 10,000 acres, very threatened), as listed in the CNDDDB (2010).

CNDDDB (2010) also lists two aquatic wildlife habitats as sensitive that applies to the project area, coastal steelhead trout stream and coastal brackish marsh. The County of Santa Barbara designates creek and riparian areas as ESH and requires a buffer area of 100 feet (30 m) along margins of wetlands (County of Santa Barbara 2007).

Chapala Street Bridge: The Chapala Street Bridge site is highly disturbed, with a predominance of non-native vegetation, and the channel bottom is covered with concrete, although sand often accumulates above the concrete surface.

One large native western sycamore (*Platanus racemosa*) occurs in front of a building on Chapala Street just east (downstream) of the bridge, and the vertical constructed walls in this area are covered with non-native English ivy (*Hedera helix*). The vegetation in the channel bottom upstream of the Chapala Street Bridge includes a limited amount of scattered native herbaceous perennial species typical of freshwater marsh, especially along the channel margins. Downstream from the bridge, the riparian vegetation is limited to the northeast side of the creek, and is comprised of mostly mainly invasive or planted non-native species, although two young western sycamores are present as well.

Steelhead habitat in the vicinity of the Chapala Street Bridge is currently marginal, but Mission Creek is classified as a coastal steelhead trout stream along the length of the project area.

Cota Street Bridge: The Cota Street site supports a small fragment of mixed riparian forest dominated by western sycamore and arroyo willow (*Salix lasiolepis*), which form a dense canopy on the upstream side of the existing bridge; in this area, the banks of the creeks are natural and consist of rocks and soil. In the understory of the canopy along the stream in this area, native herbaceous perennial species typical of freshwater marsh are present.

The riparian vegetation is more disturbed on the downstream side of the existing bridge, and the banks on the southwest side of the creek in this area are covered with sacked concrete. Native freshwater marsh vegetation comprised of cattail clumps are present, along other native species and many non-native, invasive plants.

Near the northeast corner of Bath and Cota Streets, a disturbed access corridor upslope from the creek supports weedy grasses and other non-native species characteristic of non-native grassland and ruderal habitats.

Steelhead habitat in the vicinity of the Cota Street Bridge is currently poor, but Mission Creek is classified as a coastal steelhead trout stream along the length of the project area.

Mason Street Bridge: The vegetation adjacent to the Mason Street Bridge site is highly disturbed, with a predominance of non-native species. One large western sycamore occurs on the edge of the stream bank on the southeast (downstream) side of the bridge. Other vegetation in the immediate vicinity of the proposed Mason Street Bridge encompasses a combination of planted and ruderal/invasive species.

Habitat for steelhead smolts and tidewater goby is present in the estuarine environment around the Mason Street Bridge. This site would be classified as both coastal steelhead trout stream and coastal brackish marsh.

5. Sensitive Species

Existing conditions at each bridge location lacked suitable habitat for most potential sensitive plants; no sensitive species were observed at the Site during the ARCADIS 2010 survey (see Table 1).

The two sensitive wildlife species that have been the focus of previous consultation, steelhead and tidewater goby, are still the focus for the project. The steelhead and tidewater goby were not observed during the ARCADIS 2010 survey, although habitat for both species was assessed at each bridge location.

As described in Section 4, habitat for steelhead smolts and tidewater goby is present in the estuarine environment around the Mason Street Bridge, and there is documented goby breeding habitat further down Mission Creek at the State Street Bridge (CDFG 2010). Tidewater goby

habitat is also present downstream of the Chapala Street Bridge area in the estuarine portion of the creek. There is no tidewater goby habitat in the Cota Street Bridge area.

Steelhead habitat in the vicinity of the Cota Street Bridge is currently marginal. The portion of Mission Creek that passes through the Chapala Street Bridge area is currently not suitable steelhead habitat, although steelhead habitat is present in the estuarine portion of the creek downstream from the bridge.

No sensitive wildlife species were observed during the ARCADIS 2010 survey. In general, there was limited or poor quality habitat, if present at all, for most other potential sensitive species (see Table 2).

6. Applicable Federal Laws, Acts, and Orders

For this project, Caltrans has assumed, with National Environmental Policy Act (NEPA) delegation, responsibility for ensuring that federally-funded projects comply with all applicable federal acts and presidential executive orders. Four acts and executive orders must be addressed for this project (Caltrans 2010).

Executive Order (EO) 13112 – Invasive Species

Section 2(a)(3) of the Act directs federal agencies to not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere. The project description includes restoration of impacted areas with native plants and removal of certain highly invasive non-native plant species such as giant reed (*Arundo donax*) existing in the project area. The project complies with EO 13112.

EO 11990 – Protection of Wetlands

Section 2 of the Order states that each agency shall avoid undertaking new construction in wetlands unless there is no practicable alternative, and that the proposed action include all practicable measures to minimize harm to wetlands. The proposed project will have no permanent adverse effect on wetlands. In fact, the area of estuarine conditions will actually expand. Appropriate mitigation has been developed to mitigate impacts to riparian and aquatic habitat. The project complies with EO 11990.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) makes it unlawful to: pursue, hunt, take, capture or kill; attempt to take, capture or kill, possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Feathers or other parts, nests, eggs, and products derived from migratory birds are also covered under the Act.

In order to avoid take of migratory birds as a result of project-related activities, whenever possible, work will be scheduled outside of the recognized bird breeding season (typically March 1st through August 31st). If scheduling of work within the breeding season is unavoidable, then pre-construction bird nesting surveys will be conducted by a qualified biologist to identify any active nests within the work area and plan a course for avoidance until such time as the nest is determined to have failed or is deemed inactive due to fledging of the young. Therefore, the project will comply with the Migratory Bird Treaty Act.

Section 7 of the Federal Endangered Species Act (FESA)

Section 7 of the FESA requires federal agencies, in consultation with USFWS and/or NMFS, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of the critical habitat of these species.

The United States Army Corps of Engineers (USACE) has entered into formal consultation with the USFWS and NMFS regarding potential take of the southern steelhead trout (*Oncorhynchus mykiss*) and tidewater goby (*Eucyclogobius newberryi*) respectively, and Biological Opinions have been issued by USFWS and NMFS for the LMCFCP regarding these federally listed species (USFWS 2001; NMFS 2000). Conditions identified in the biological opinions will be followed during project construction and future maintenance. Therefore, the proposed project will comply with the requirements of FESA.

The Chapala Street Bridge replacement, while not part of the LMCFCP, is located on the same creek between the other two bridge locations. In addition, the proposed Chapala Bridge replacement project involves less construction (because creek widening is not involved) than the other two bridges and would include applicable precautions from environmental consultation to date.

7. Additional Required Permits

CDFG Streambed Alteration Agreement - The Santa Barbara County Flood Control and Water Conservation District will obtain a CDFG Streambed Alteration Agreement prior to the initiation of project construction and, therefore, the project will comply with the Code.

USACE, EPA, and Regional Water Quality Control Board (RWQCB) - Clean Water Act compliance pursuant to Section 401 and Section 404 is required for the construction of the LMCFCP. A 404(b)(1) water quality analysis was completed and results are included as an appendix in the final EIS/EIR.

A Storm Water Pollution Prevention Plan (SWPPP) will be prepared to meet Clean Water Act Section 402 and National Pollutant Discharge Elimination System Storm Water Program requirements prior to project construction. The selected construction contractor will prepare a SWPPP to reduce erosion and degradation to waters of the United States.

California Coastal Commission (CCC) – As part of the LMCFCP, the USACE has revised the Coastal Zone Management Act Consistency Determination to incorporate modifications to project design, proposed mitigation measures, and coordination/input received from the CCC staff for the Cota and Mason Bridges. Prior to project construction by the USACE, concurrence from the CCC would be obtained. In the event that the City and County of Santa Barbara flood control agencies implement this project, they have obtained a coastal development permit from the CCC for the Mason Street Bridge project and would be required to comply with the conditions detailed in that permit. Construction of the Chapala Street Bridge would require approval from the CCC of a Coastal Development Permit. The Cota Street Bridge is located outside the coastal zone under CCC jurisdiction.

USFWS and NMFS - A Biological Assessment has been prepared for the federally listed endangered species. An updated version is included with this NES pursuant to the Section 7 consultation with the USFWS and NMFS. Biological Opinions (BOs) for steelhead and tidewater goby have been received from both agencies. Although the Chapala Street Bridge replacement was not part of the LMCFCP, the BOs for steelhead and tidewater goby prepared to date address locations immediately upstream and downstream from the Chapala Street Bridge.

8. Project Effects

Conclusions about expected project impacts are based upon the latest project descriptions provided by the City of Santa Barbara for each bridge replacement; these project descriptions are provided in the recently prepared Biological Assessment update (ARCADIS 2010). The three bridge replacements along lower Mission Creek at Cota, Chapala and Mason Streets are not expected to have a substantial adverse effect, either directly or through habitat modifications, on either tidewater goby or steelhead trout provided all proposed avoidance and impact minimization measures are followed. These measures include but are not limited to specific stream diversion protocol including biological monitoring, application of Best Management Practices, and scheduling of construction work to occur outside of flow periods conducive to increased movement by fish within Mission Creek. In the long run, the bridge replacements in conjunction with other components of the Lower Mission Creek Flood Control Project (LMCFCP) will greatly benefit both steelhead and tidewater goby by markedly improving habitat conditions (see Section 9 below).

Limited riparian habitat at each of the three bridge replacement sites will be temporarily but not substantially effected by construction work associated with the bridge replacements. The impact areas are provided in the table below. To compensate for minor disturbance of streamside vegetation, planting of native riparian vegetation in the temporarily disturbed areas and removal of targeted invasive non-native plant species are included in the overall project design detailed in the LMCFCP.

Bridge	Waters of the US Impact Area	Waters of the State Impact Area	Total Impact Area
Mason Street	550 square feet	900 square feet	900 square feet
Chapala Street	850 square feet	850 square feet	850 square feet
Cota Street	1960 square feet	12,000 square feet	12000 square feet
<i>Combined Total</i>	<i>3360 square feet</i>	<i>13,750 square feet</i>	<i>13,750 square feet</i>

The three bridge replacements (scheduled to take place at different times) will require temporary stream flow diversion through the work site during construction. However, at no time will the natural flow of Mission Creek be halted all together. A detailed description of stream channel diversion methods is included in the 2010 Biological Assessment (ARCADIS 2010). These methods for diverting surface water flow to allow dry space for in-channel work are not expected to have any substantial long term adverse effects on Mission Creek. Stream diversion at each of the bridge locations, when necessary, will be routinely monitored by an approved biologist to insure that all measures implemented to prevent restriction of movement by fish and wildlife are followed.

The project is not anticipated to interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. The project is not in conflict with any local policies or ordinances protecting biological resources. Nor does it conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Based on engineering drawings, the limits of temporary creek disturbance for the Chapala Street Bridge replacement project will be approximately 7,000 square feet (0.16 acre), or approximately 650 square meters (0.06 ha); the limits of temporary creek disturbance for the Mason Street Bridge replacement project will be approximately 20,600 square feet (0.47 acre), or approximately 1,914 square meters (0.2 ha); and the limits of temporary creek disturbance for the Cota Street Bridge replacement project will be approximately 14,200 square feet (0.33 acre), or approximately 1,319 square meters (0.13 ha).

9. Mitigation Measures

Mitigation measures follow those provided in the LMCFCP EIS/EIR (USACE 2000d), and consist primarily of bank restoration with native riparian plant species, targeted removal of invasive non-native plant species, and habitat enhancement for wildlife, especially the federal listed southern steelhead and tidewater goby. Slight changes have been made to habitat enhancement measures since the LMCFCP Biological Opinions were issued in 2000 and 2001. These changes consist of the following:

Ledge in estuary and along streambanks – The LMCFCP EIS/EIR proposes a bench to be built along the banks that steelhead could hide under (presumably to mimic an undercut bank). Ledges along walls of the estuary and streambanks provide sheltered overhangs as resting places for fish along with protection from predators; ledges shade the water and reduce local water temperatures in a given location. Ledges along the stream also can promote scour pools where water may persist during dry periods.

Implementation of ledge installation is still proposed, but the overall sequence of projects has changed so they will not be installed prior to the three bridge replacements described herein. Additionally, there are questions as to the final elevation of the ledge, considering the significant fluctuation in the width and depth of the creek through the year.

Boulder clusters – The LMCFCP EIS/EIR proposes clusters of boulders in the channel. Like ledges, boulder clusters provide sheltered resting spots and a variety of microhabitats. At one time boulder clusters were proposed along the banks, but now the clusters will be scattered throughout the channel.

Riffle pools – In the LMCFCP EIS/EIR, creation of a low flow channel is proposed. Riffles consist of a shallow stretch of stream with above-average stream velocity, often consisting of a bed of gravel and various sized rocks. These conditions provide favorable habitats for aquatic invertebrates and juvenile fish. The Channel Design recommendations incorporated a series of riffle pools north of Highway 101, and the Coastal Commission subsequently required the riffle pools

For the Mason and Cota Street bridges, additional enhancement measures planned as part of the LMCFCP include:

Enhancement of soft channel bottoms: Natural soft channel bottoms, especially those with diverse sediment types, provide rough surfaces and sediments as habitat for invertebrate populations, as well as favorable conditions for fish foraging and upstream migration and foraging.

Expansion of estuary: An expanded estuary will provide greater area for smolts to reside and greater water volume in which to hide from predators.

Refugia for tidewater goby during high flow: Grooves built into the estuary walls may reduce water flow and allow tidewater goby to get out of the main flow and into slower water.

10. Conclusions and Determination

Based on the 2010 ARCADIS field survey and review of previous and recent documents for the project, the compendium of biological information presented in previous biological assessments for the LMCFCP is still applicable to the current project of replacing the Mason Street and Cota

Street Bridges along Mission Creek in Santa Barbara, California. Original avoidance and minimization measures remain the same, and the Reasonable and Prudent Measures and Terms and Conditions described in the existing Biological Opinions will be followed. Proposed native plant restoration is expected to enhance riparian habitats and water quality. The Chapala Street Bridge replacement project, while not part of the LMCFCP, is also located on Mission Creek, a short distance upstream from the Mason Street Bridge and a short distance downstream from the Cota Street Bridge. In addition, the proposed Chapala Bridge replacement project involves less construction than the other two bridges and would include applicable precautions from environmental consultation to date, as described herein.

There have been slight changes to habitat enhancement measures from what was previously described in earlier BAs, and tidewater goby critical habitat has been revised to include the Mission Creek lagoon. Avoidance/minimization measures from the LMCFCP EIS/EIR remain the same, and adherence to the Reasonable and Prudent Measures and Terms and Conditions described in the USFWS BO for protection of steelhead and in the NMFS BO for protection of tidewater goby will be required. With these precautions, the amount and extent of effects to essential features of critical steelhead and goby habitat are expected to be negligible and are not expected to result in detectable adverse effects to either species. Effects to steelhead and essential features of steelhead critical habitat and to tidewater goby and essential features of goby critical habitat are expected to be confined to the action area (dewatered portion of the creek). The proposed bridge replacements are not likely to jeopardize the continued existence of the federally endangered southern steelhead ESU or the federally endangered tidewater goby, and are not likely to destroy or adversely modify their critical habitat. The bridge replacements are not likely to jeopardize the continued existence of either of these two federally endangered species.

The project design incorporates an array of minimization measures designed to protect ecological resources associated with Mission Creek during the project, especially the tidewater goby and steelhead. Implementation of the recommended minimization and enhancement measures is likely to result in avoidance of significant impacts to biotic resources and to provide long-term enhancement of ecological functions along this urban portion of Mission Creek.

11. References

- ARCADIS U.S., Inc. (ARCADIS). 2010. *City of Santa Barbara Bridge Replacements. Biological Assessment*. Santa Maria, CA.
- Baldwin, B.G., S. Boyd, B.J. Ertter, D.J. Keil, R.W. Patterson, T.J. Rosatti, and D.H. Wilken. 2010. *Jepson Online Interchange for California Floristics*. Jepson Flora Project. Website: http://www.ucjeps.berkeley.edu/jepson_flora_project.html
- California Department of Fish and Game (CDFG). 2010. *Natural Diversity Data Base RareFind* Version 3.1.0 computer program. Sacramento, California. February 28 (with monthly updates).
- California Department of Transportation (Caltrans). 2007. *City of Santa Barbara Mission Creek Bridge Replacements*. Biological assessment, Ortega Street Bridge No. 51C-0300, Haley/DeLaVina Street Bridge No.51C-0247.
- California Department of Transportation (Caltrans). 2009a. Letter to John Ewasiuk (City of Santa Barbara) from Randy LaVack (Caltrans, District 5) regarding Chapala Street Bridge replacement NEPA requirement compliance and Preliminary Environmental Study (PES) form. November 25.
- California Department of Transportation (Caltrans). 2009b. Letter to John Ewasiuk (City of Santa Barbara) from Randy LaVack (Caltrans, District 5) regarding Cota Street Bridge replacement NEPA requirement compliance and Preliminary Environmental Study (PES) form. November 25.
- California Department of Transportation (Caltrans). 2010. Letter to John Ewasiuk (City of Santa Barbara) from Randy LaVack (Caltrans, District 5) regarding Mason Street Bridge replacement NEPA requirement compliance and Preliminary Environmental Study (PES) form. February 2.
- California Native Plant Society (CNPS). 2010. *Inventory of Rare and Endangered Plants* (online edition). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Website: <http://www.cnps.org/inventory>
- City of Santa Barbara Department of Public Works. 2010a. *Chapala Street Bridge Project Replacement* [project description]. July 22, 2010.
- City of Santa Barbara Department of Public Works. 2010b. *Cota Street Bridge Project Replacement* [project description]. July 25, 2010.

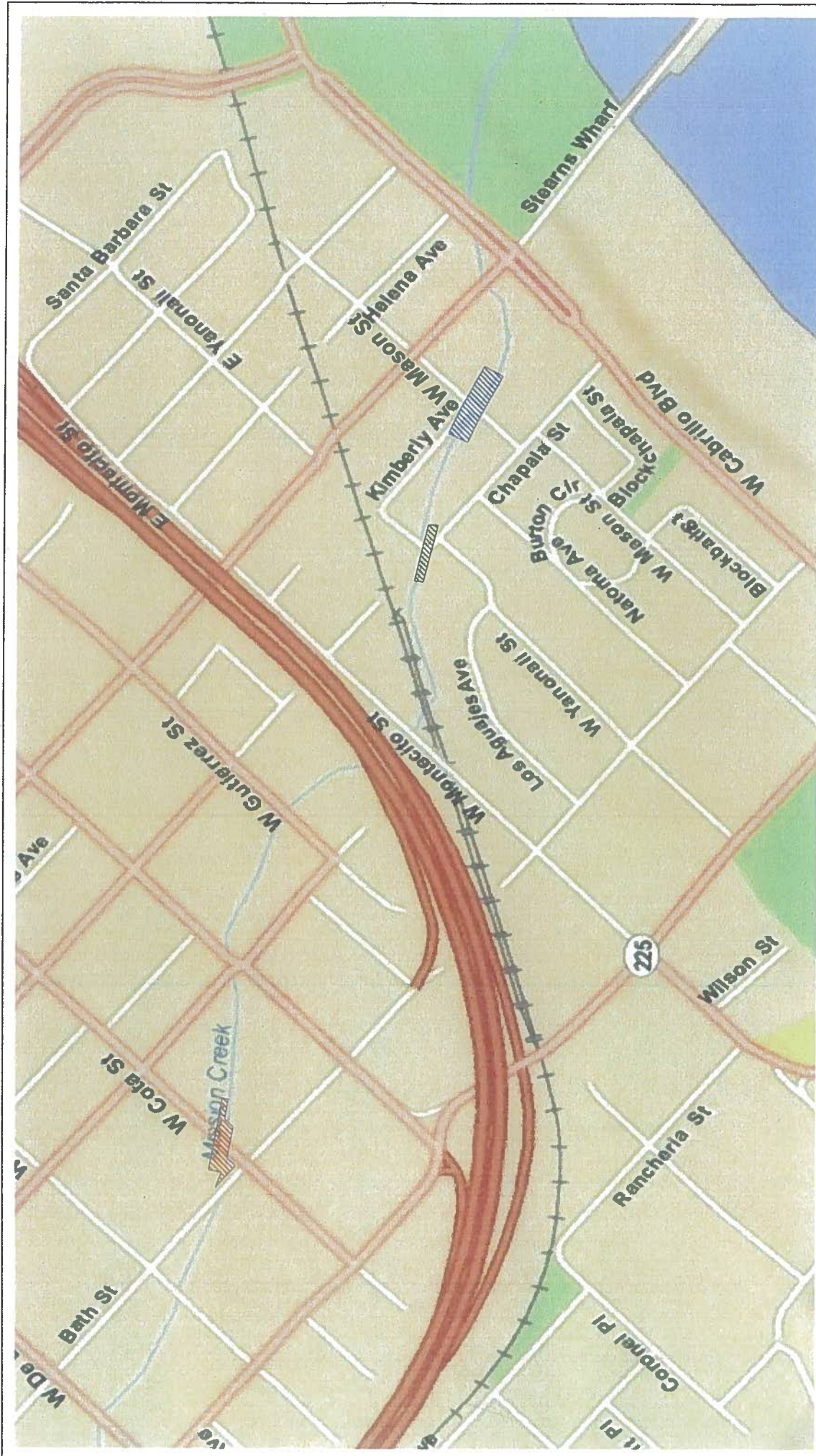
- City of Santa Barbara Department of Public Works. 2010c. *Mason Street Bridge Project Replacement* [project description]. No revision date; received by ARCADIS July 20.
- County of Santa Barbara. 2007. *Santa Barbara County Land Use & Development Code. Planning and Development Department*. Santa Barbara and Santa Maria, CA.
- Flora of North America Editorial Committee, eds. 1993+. *Flora of North America North of Mexico*. 12+ vols. New York and Oxford. Vol. 1, 1993; vol. 2, 1993; vol. 3, 1997; vol. 4, 2003; vol. 5, 2005; vol. 19, 2006; vol. 20, 2006; vol. 21, 2006; vol. 22, 2000; vol. 23, 2002; vol. 25, 2003; vol. 26, 2002.
- Hickman, J.C. (ed.). 1993. *The Jepson Manual: Higher Plants of California*. University of California Press. Berkeley, California.
- National Marine Fisheries Service (NMFS). 2000. *Biological Opinion for Construction and Maintenance of Flood Control Channel on Lower Mission Creek, Santa Barbara County, CA* (F-LB-00-23:KAJ). Letter from Rodney McInnis (NMFS) to Robert Koplin (USACE) regarding effect of project on steelhead (*Oncorhynchus mykiss*) and its critical habitat. August 2.
- Sawyer, J.O., T. Keeler-Wolf, and J.M. Evans. 2009. *Manual of California Vegetation*. California Native Plant Society. Sacramento, California. 1300 pp.
- United States Army Corps of Engineers (USACE). 2000a. *Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR), Santa Barbara County Streams, Lower Mission Creek Flood Control Feasibility Study* [Project]. September 2000.
- United States Army Corps of Engineers (USACE). 2000b. *Revised Biological Assessment, Steelhead, Lower Mission Creek Flood Control Project, Santa Barbara, CA*. June 2000. Appendix A-2 in USACE Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR), Santa Barbara County Streams, Lower Mission Creek Flood Control Feasibility Study [Project]. September.
- United States Army Corps of Engineers (USACE). 2000c. *Revised Biological Assessment, Tidewater Goby, Lower Mission Creek Flood Control Project, Santa Barbara, CA*. June 2000. Appendix A-1 in USACE Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR), Santa Barbara County Streams, Lower Mission Creek Flood Control Feasibility Study [Project]. September.
- United States Army Corps of Engineers (USACE). 2000d. *Mitigation Monitoring Plan. Lower Mission Creek Flood Control Project, Santa Barbara, CA*. September 2000. Appendix H in USACE Final Environmental Impact Statement/Environmental Impact Report

(EIS/EIR), Santa Barbara County Streams, Lower Mission Creek Flood Control Feasibility Study [Project]. September.

United States Fish and Wildlife Service (USFWS). 2001. *Biological Opinion for Lower Mission Creek Flood Control Project, Santa Barbara County, CA (1-8-00-F-74)*. Letter from Diana Noda (USFWS) to Robert Koplin (USACE) regarding effect of project on tidewater goby (*Eucyclogobius newberryi*). June 1.

United States Fish and Wildlife Service (USFWS). 2005. *Endangered and Threatened Species; Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California; Final Rule*. Federal Register 9 – 02- 2005 (Vol.70); pp. 52487 – 52627

United States Fish and Wildlife Service (USFWS). 2008. *Endangered and Threatened Wildlife and Plants. Revised Designation of Critical Habitat for the Tidewater Goby (Eucyclogobius newberryi)*. Final rule. Federal Register 73(21): 5919-6006. January 31.



Bridge Replacement Projects

- Cola Street Bridge
- Chapala Street Bridge
- Mason Street Bridge

Map includes data from:
multiple sources

Site Location Map

Santa Barbara Bridge Replacement Project



Figure 1

Table 1: Observed Vascular Plant Species at Mission Creek: Chapala, Cota, and Mason Street Bridges

Scientific Name	Common Name	Wetland Indicator Status	Abundance Chapala Street Bridge	Abundance Cota Street Bridge	Abundance Mason Street Bridge
TREES					
<i>Acacia melanoxylon</i>	blackwood acacia	FACU			uncommon upstream
<i>Ailanthus altissima</i>	tree of heaven			occasional street tree on Cota Street	
<i>Brachychiton discolor</i>	pink flame tree				
<i>Eriobotrya japonica</i>	loquat tree		planting near creek		
<i>Ficus carica</i>	edible fig		occasional	uncommon	
<i>Fraxinus uhdei</i>	Shamel ash			uncommon	
<i>Koelruteria bipinnata</i>	Chinese lantern tree		uncommon		uncommon
<i>Lagunaria patersonii</i>	Primrose tree		street tree on Chapala Street		
<i>Lophostemon conferta</i>	Brisbane box		planting near creek		
<i>Phoenix canariensis</i>	Canary Island palm			uncommon	uncommon
<i>Pinus halepensis</i>	Aleppo pine			uncommon	
<i>Pinus pinea</i>	Italian stone pine			uncommon	
<i>Pinus radiata</i>	Monterey pine		planting near creek		uncommon planting
<i>Pittosporum undulatum</i>	Victorian box		uncommon	uncommon	
<i>Platanus racemosa</i>	western sycamore	FACW	large individuals near stream	dominant along stream	large individual on streambank
<i>Populus nigra</i> 'Italica'	Lombardy poplar			planting on downstream bank	
<i>Quercus agrifolia</i>	coast live oak				uncommon on upstream banks
<i>Quercus lobata</i>	valley oak				uncommon near parking lot, presumed planting
<i>Salix lasiolepis</i>	arroyo willow	FACW		scattered	
<i>Salix laevigata</i>	red willow	FACW+		scarce, seedling	
<i>Schefflera pueckleri</i>	mallet flower				uncommon
<i>Washingtonia robusta</i>	Mexican fan palm		uncommon	scarce, seedlings	
SHRUBS/SUBSHRUBS					
<i>Agave americana</i>	blue agave			uncommon	
<i>Agave attenuata</i>	swan's neck agave		uncommon	uncommon	occasional
<i>Aloe arborescens</i>	tree aloe		planting		

Table 1: Observed Vascular Plant Species at Mission Creek: Chapala, Cota, and Mason Street Bridges

Scientific Name	Common Name	Wetland Indicator Status	Abundance Chapala Street Bridge	Abundance Cota Street Bridge	Abundance Mason Street Bridge
<i>Baccharis pilularis</i> subsp. <i>consanguinea</i>	coyote bush				occasional
<i>Bougainvillea cultivar</i>	Bougainvillea			occasional	uncommon
<i>Brugmansia cultivar</i>	angel's trumpet				uncommon
<i>Carissa macrocarpa</i>	natal plum				uncommon
<i>Crassula ovata</i>	jade plant				uncommon
<i>Distictis buccinatoria</i>	red trumpet vine		uncommon		
<i>Ligustrum vulgare</i>	common privet		planting		
<i>Nerium oleander</i>	oleander		uncommon		
<i>Opuntia ficus-indica</i>	Mission cactus, tuna			uncommon	
<i>Ricinus communis</i>	castor-bean	FACU		occasional	
<i>Rosa californica</i>	California wild rose	FAC+			uncommon, planted?; located in planting area
<i>Rubus discolor</i>	Himalayan blackberry	FACW	occasional		
<i>Salix sitchensis</i>	Sitka willow	FACW+			uncommon near parking lot, presumed planting
<i>Solanum douglasii</i>	Douglas' nightshade	FAC		uncommon	
<i>Yucca elephantipes</i>	giant yucca		planting		planting
HERBS (ANNUALS, BIENNIALS, HERBACEOUS PERENNIALS)					
<i>Acanthus mollis</i>	bear's breeches				uncommon
<i>Ageratina adenophora</i>	throughwort, eupatory			uncommon	
<i>Anagallis arvensis</i>	scarlet pimpernel	FAC			occasional
<i>Apium graveolens</i>	celery	FACW		uncommon	
<i>Artemisia douglasiana</i>	mugwort	FACW		uncommon	uncommon
<i>Arundo donax</i>	giant reed	FACW	common	occasional	
<i>Avena barbata</i>	slender wild oat			uncommon	
<i>Bidens pilosa</i> var. <i>pilosa</i>	hairy beggar's ticks	FACW		uncommon	uncommon
<i>Bromus catharticus</i>	rescue grass			uncommon	uncommon
<i>Bromus diandrus</i>	ripgut brome			common	scattered
<i>Bromus rubens</i> [madritensis subsp. <i>rubens</i>]	red brome			uncommon	uncommon
<i>Centranthus ruber</i>	red valerian				uncommon
<i>Cerastium glomeratum</i>	mouse-eared chickweed	FACU		uncommon	
<i>Chenopodium murale</i>	nettle-leaf goosefoot			uncommon	uncommon
<i>Conium maculatum</i>	poison-hemlock	FACW		uncommon	
<i>Conyza canadensis</i>	horseweed	FAC		occasional	
<i>Cynodon dactylon</i>	Bermuda grass	FAC			occasional
<i>Cyperus eragrostis</i>	tall flatsedge	FACW	uncommon	uncommon	
<i>Cyperus involucratus</i>	umbrella sedge	OBL		uncommon	
<i>Dietes iridioides</i>	butterfly iris				occasional

Table 1: Observed Vascular Plant Species at Mission Creek: Chapala, Cota, and Mason Street Bridges

Scientific Name	Common Name	Wetland Indicator Status	Abundance Chapala Street Bridge	Abundance Cota Street Bridge	Abundance Mason Street Bridge
<i>Digitaria sanguinalis</i>	crabgrass	FACW	uncommon	uncommon	uncommon
<i>Epilobium ciliatum</i>	willow-herb			uncommon	
<i>Ehrharta erecta</i>	tall veldt grass		occasional	occasional	
<i>Festuca arundinacea</i>	tall fescue			uncommon	
<i>Foeniculum vulgare</i>	sweet fennel, sweet anise	FACU	occasional	occasional	occasional
<i>Hedera helix</i>	English ivy		scattered	common on downstream side of bridge	common
<i>Helminthotheca echioides</i>	bristly ox-tongue	FAC		uncommon	occasional
<i>Hirschfeldia incana</i>	summer mustard,		occasional	scattered	
<i>Hordeum murinum</i> subsp. <i>leporinum</i>	foxtail barley			uncommon	
<i>Hydrocotyle verticillata</i>	whorled marsh pennywort	OBL		uncommon	
<i>Ipomoea indica</i>	blue morning-glory			occasional	
<i>Juncus xiphioides</i>	iris-leaved rush	OBL	uncommon		
<i>Lactuca serriola</i>	prickly lettuce	FAC		uncommon	
<i>Lavatera cretica</i>	Cretan mallow			uncommon	uncommon
<i>Lepidium coronopus</i>	swine cress			uncommon	
<i>Lolium multiflorum</i>	Italian ryegrass			occasional	
<i>Ludwigia peploides</i>	yellow marsh-primrose	OBL	occasional	scattered	
<i>Malva parviflora</i>	cheeseweed			uncommon	uncommon
<i>Marrubium vulgare</i>	horehound	FAC		scarce	
<i>Medicago polymorpha</i>	bur-clover			uncommon	uncommon
<i>Melilotus indicus</i>	yellow sweet-clover	FAC	uncommon	uncommon	uncommon
<i>Mentha x piperita</i>	peppermint	OBL		uncommon	
<i>Mirabilis jalapa</i>	four-o'clock			uncommon	
<i>Nasturtium officinale</i>	watercress	OBL	occasional		
<i>Oxalis pes-caprae</i>	Bermuda-buttercup			uncommon	
<i>Paspalum dilatatum</i>	dallisgrass	FAC			uncommon
<i>Parthenocissus quinquefolia</i>	Virginia creeper			occasional	
<i>Pennisetum clandestinum</i>	kikuyu grass	FACU+		uncommon	occasional
<i>Persicaria punctata</i>	spotted smartweed, water smartweed	OBL		occasional	
<i>Piptatherum miliaceum</i>	smilo		occasional	occasional	occasional
<i>Plantago lanceolata</i>	English plantain	FAC-			uncommon
<i>Plantago major</i>	common plantain	FACW-			uncommon
<i>Poa annua</i>	annual bluegrass	FACW-		uncommon	
<i>Polygonum aviculare</i> subsp. <i>depressum</i>	knotweed			uncommon	
<i>Polypogon interruptus</i> [viridis]	ditch beardgrass	OBL		occasional	scattered
<i>Polypogon monspeliensis</i>	rabbitsfoot grass	FACW+	occasional	occasional	
<i>Portulaca oleracea</i>	common purslane	FAC	occasional		
<i>Pseudognaphalium luteoalbum</i>	cudweed aster	FACW-		uncommon	

12/21/2010

Table 1: Observed Vascular Plant Species at Mission Creek: Chapala, Cota, and Mason Street Bridges

Scientific Name	Common Name	Wetland Indicator Status	Abundance Chapala Street Bridge	Abundance Cota Street Bridge	Abundance Mason Street Bridge
<i>Raphanus sativus</i>	wild radish	FACW FACW-			uncommon
<i>Rumex conglomeratus</i>	green dock			uncommon	uncommon
<i>Rumex crispus</i>	curly dock			uncommon	
<i>Senecio vulgaris</i>	common groundsel			uncommon	
<i>Sonchus oleraceus</i>	common sow-thistle			occasional	occasional
<i>Tropaeolum majus</i>	garden nasturtium			common on eastern bank upstream from bridge	uncommon
<i>Typha angustifolia</i>	narrow-leaved cattail	OBL	uncommon	uncommon	
<i>Typha latifolia</i>	common cattail	OBL		occasional	
<i>Veronica anagallis-aquatica</i>	water speedwell	OBL		uncommon	
<i>Vicia sativa</i>	common vetch	FACU			uncommon
<i>Vinca major</i>	periwinkle			occasional	uncommon
<i>Vulpia [Festuca] myuros</i>	rattail fescue	FACU*		uncommon	
<i>Xanthium strumarium</i>	cocklebur	FAC+	uncommon	uncommon	
FERNS AND FERN ALLIES					
<i>Equisetum arvense</i>	common horsetail	OBL	occasional	scattered	
Notes: Native species are in bold print Based on 2010 ARCADIS surveys of proposed disturbance areas Uncommon = rarely observed on Site, not found in high numbers in given community; Occasional = occasionally found in given community on Site, but not consistently distributed; Scattered = found in varying numbers in some but not most areas within in given community; Common = consistently or often present in given community on Site.					

**Table 2: Present or CNDDB Recorded Sensitive Elements of Biological Diversity for Site and Surrounding Areas
Mission Creek, Santa Barbara, California**

Based on CNPS Inventory of Rare and Endangered Plants (online edition, v7-09c: 2010) and CNDDB (2010) search results for the Santa Barbara quadrangle in which Site occurs, as well as surrounding quadrangles: Carpinteria, Goleta, Hildreth Peak, Little Pine Mountain, and San Marcos Pass.			
Sensitive Species		Status (USFWS/CDFG/CNPS)	Occurrence of Element on Project Site
Name	Common Name	Habitat	
Amphibians			
<i>Bufo californicus</i>	Arroyo toad	FE / -	Riparian, river and stream courses and adjacent areas
<i>Rana draytonii</i>	California red-legged frog	FT / CSC	Ponds, streams, aquatic systems
Birds			
<i>Accipiter cooperii</i>	Cooper's hawk	- / CSC	Not observed; limited and poor quality habitat present for this species.
<i>Buteo regalis</i>	Ferruginous hawk	- / -	Not observed; limited and poor quality habitat present for this species.
<i>Charadrius alexandrinus nivosus</i>	Western snowy plover	FT / CSC	Oak woodland/ may utilize many habitat types
<i>Elanus leucurus</i>	White-tailed kite	fully protected / -	Open grasslands, fields, hillsides, agricultural areas
<i>Empidonax traillii eximius</i>	southwestern willow flycatcher	FE / SE	sandy beach areas and estuaries
<i>Gymnogyps californicus</i>	California condor	FE / SE	grassland, coastal scrub, oak woodlands
<i>Passerculus sandwichensis beldingi</i>	Belding's savannah sparrow	- / SE	Willow riparian and riparian systems
<i>Rallus longirostris livipes</i>	Light-footed clapper rail	FE / SE	Open areas of many habitat types
<i>Riparia riparia</i>	Bank swallow	- / ST	coastal salt marshes
<i>Vireo bellii pusillus</i>	Least Bell's vireo	FE / SE	coastal salt marshes
Fish			
<i>Eucyclogobius newberryi</i>	Tidewater goby	FE/CSC	Primarily riparian habitats with exposed sandy vertical banks or cliffs
<i>Oncorhynchus mykiss</i>	Southern steelhead	FE/CSC	Willow riparian and riparian systems
Reptiles			
<i>Acinemys marmorata pallida</i>	Southwestern pond turtle	FSC / CSC	Ponds, lakes, streams
Plants			
<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>	Ventura marsh milk vetch	FE / CE / 1B.1	Coastal dunes, coastal scrub, coastal marshes and swamps
			Not observed, suitable habitat absent. Regional endemic. Currently restricted in the wild to Ventura County; extirpated in Los Angeles and Orange Counties; planted in Santa Barbara County.

**Table 2: Present or CNDDB Recorded Sensitive Elements of Biological Diversity for Site and Surrounding Areas
Mission Creek, Santa Barbara, California**

Sensitive Species		Status (USFWS/CDFG/CNPS)	Habitat	Occurrence of Element on Project Site
Name	Common Name			
<i>Cordyanthus maritimus</i> subsp.	Salt marsh birds beak	FE / CE / 1B.2	Coastal dunes, coastal salt marsh	Not observed; potential suitable habitat absent. Not reported from Santa Barbara quadrangle in CNDDB (2010) but known from Carpinteria salt marsh.
<i>Lasthenia conjugens</i>	Contra Costa goldfields	FE / - / 1B.1	Vernal pools, associated grassland and woodlands, margins of estuarine marshy areas	Not observed; suitable vernal pools absent. Not reported in Santa Barbara quadrangle in CNDDB (2010), but reported from Goleta area.
<i>Lasthenia glabrata</i> subsp. <i>coulteri</i>	Coulter's goldfields	SOC / - / 1B.1	Estuary margins, associated grassland and playa areas.	Not observed; potential suitable habitat present. Not reported from Santa Barbara quadrangle in CNDDB (2010) but known from Goleta.
<i>Nasturtium gambellii</i>	Gambel's water cress	FE / - / 1B.1	Marshes and swamps	Not observed; potential suitable marsh habitat present. Type locality "near city of Santa Barbara" in 1876; not reported in Santa Barbara since.

CNDDB Element Ranking System:

G = Global, S = State

- 1 - less than 6 viable element occurrences OR less than 1,000 individuals, or < 810 hectares (2,000 acres)
- 2 - 6 to 20 element occurrences OR 810 to 4,050 hectares (2,000 to 10,000 acres)
- 3 - 21 to 100 element occurrences OR 4,050 to 20,235 hectares (10,000 to 50,000 acres)
- 4 - apparently secure, but factors exist to cause some concern (i.e. there is some threat or somewhat narrow habitat)

Extensions to Ranking Categories

- 1 - very threatened
- 2 - threatened
- 3 - no current threats known

Status Codes

United States Fish and Wildlife Service (USFWS)

FE Federal Endangered

FT Federal Threatened

FC Federal Candidate

SOC Species of Concern as listed by Sacramento Office (USFWS, 2004)

MNBMC Migratory nongame bird of management concern

FSC Federal special concern species

California Department of Fish and Game (CDFG)

CE California Endangered

CT California Threatened

CR California Rare

CSC California Species of Concern

California Native Plant Society (CNPS)

L lists

List 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere

List 2: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

List 3: Plants About Which We Need More Information - A Review List

Extensions to List Categories

- 1 - Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- 2 - Fairly endangered in California (20-80% occurrences threatened)
- 3 - Not very endangered in California (<20% of occurrences threatened or no current threats known)

City of Santa Barbara Bridge Replacements
Santa Barbara, California



Chapala Street Bridge site,
looking upstream at sandy
substrate and occasional
native freshwater marsh
species.

7/8/2010

P7080543



Chapala Street Bridge site,
looking downstream. One
native western sycamore is
visible in this photograph
(red arrow) along with
dense stands of the invasive
giant reed (blue arrow).

6/16/2010

P6160478

**City of Santa Barbara Bridge Replacements
Santa Barbara, California**



Cota Street Bridge site, looking downstream towards bridge. This site supports a small fragment of mixed riparian forest dominated by western sycamore and arroyo willow along the margins, and freshwater marsh vegetation in the streambed.

7/8/2010

P7080525



Cota Street Bridge site, looking upstream from annual grassland on west bank. This site supports mixed riparian forest dominated by western sycamore and arroyo willow along the margins, and freshwater marsh vegetation in the streambed.

6/16/2010

P6160438

City of Santa Barbara Bridge Replacements
Santa Barbara, California



Cota Street Bridge site.
Yellow marsh-primrose is
one of several native
freshwater marsh species
growing at this site.

7/8/2010

P7080501



Cota Street Bridge site,
looking downstream.
Invasive English ivy on
right and tree of heaven on
left predominate, along
with patches of native
freshwater marsh species,
such as the cattail in the
foreground.

7/8/2010

P7080511

City of Santa Barbara Bridge Replacements
Santa Barbara, California



Mason Street Bridge site, looking downstream towards bridge. Invasive English ivy grows over walls on right and a combination of non-native, native, and planted species occur on banks on left.

7/8/2010

P7080580



Mason Street Bridge site, looking upstream from bridge. Native coyote bush (red arrow) and oak trees (blue arrow) are visible in this photograph.

7/8/2010

P7080569

City of Santa Barbara Bridge Replacements
Santa Barbara, California



Mason Street Bridge site,
looking downstream from
bridge.

7/8/2010

P7080460



Mason Street Bridge site. A
large multi-trunked western
sycamore leans over the
water immediately
downstream from the
bridge.

7/8/2010

P7080461